

REMARKS

Claims 1-20 are all the claims pending in the application.

I. Response to Prior Art Rejections

A. Ozawa et al '018

Claims 1, 3-6, 8-16 and 18-19 are rejected under 35 U.S.C. § 102(e) as allegedly being fully anticipated by Ozawa et al '018.

Claims 1-16 and 18-20 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ozawa et al '018.

Applicants claim priority to JP App. No. 20002-241581 filed in Japan on August 22, 2002 which precedes the earliest effective date of Ozawa et al '018 of October 10, 2002. A sworn English translation is submitted herewith thereby removing Ozawa et al '018 as prior art under §102 (e). Support for the present rejected claims is found in the priority document as follows:

Present Claims	Support in JP 2002-241581
Claim 1	Claim 1 on page 1
Claims 2, 3, 4	Paragraph [0007]
Claim 5	Paragraph [0008]
Claim 6	Paragraph [0009]
Claim 7	Paragraph [0010]

Present Claims	Support in JP 2002-241581
Claims 8, 9 and 10	Paragraph [0011]
Claim 11	Paragraph [0012]
Claims 12, 13, 14 and 15	Paragraph [0014]
Claim 16	Paragraph [0017]
Claim 18	Paragraph [0019]
Claim 19	Paragraph [0023]
Claim 20	Paragraph [0024]

Accordingly, Applicants respectfully request withdrawal of the §102 and §103 rejections based on Ozawa et al '018.

B. Ishida et al (JP '498)

Claims 1, 3-6, 8-16 and 18-19 are rejected under 35 U.S.C. § 102(a) as allegedly being fully anticipated by Ishida et al (JP '498).

Claims 1-16 and 18-20 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ishida et al.

Applicants claim priority to JP App. No. 20002-241581 filed in Japan on August 22, 2002 which precedes the earliest effective date of Ishida et al JP '498 of July 4, 2003. A sworn English translation is submitted herewith thereby removing Ishida et al JP '498 as prior art

under §102 (a). Support for the present rejected claims is found in the priority document as follows:

Present Claims	Support in JP 2002-241581
Claim 1	Claim 1 on page 1
Claims 2, 3, 4	Paragraph [0007]
Claim 5	Paragraph [0008]
Claim 6	Paragraph [0009]
Claim 7	Paragraph [0010]
Claims 8, 9 and 10	Paragraph [0011]
Claim 11	Paragraph [0012]
Claims 12, 13, 14 and 15	Paragraph [0014]
Claim 16	Paragraph [0017]
Claim 18	Paragraph [0019]
Claim 19	Paragraph [0023]
Claim 20	Paragraph [0024]

Accordingly, Applicants respectfully request withdrawal of the §102 and §103 rejections based on Ishida et al JP '498.

C. Mizushima et al '596

Claims 1, 3, 4 and 8-17 are rejected under 35 U.S.C. § 102(b) as allegedly being fully anticipated by Mizushima et al '596.

Applicants respectfully traverse the rejection and submit that Mizushima et al '596 does not disclose, teach or suggest all elements of the present invention. Specifically, Mizushima et al '596 fails to disclose, teach or suggest the central surface average roughness (SRa) and the height and number of projections recited in the present claims. Mizushima et al '596 discloses a reflective layer having a crystallite size of up to 30nm. However, this disclosure does not relate to the central surface average roughness (SRa), and the height and number of projections of the present application. For the technical significance of these features of the present invention, Applicants refer the Examiner to the comments below regarding the §102 rejection based on Ohno '443.

Accordingly, Applicants respectfully request withdrawal of the rejection.

D. Miki '000

Claims 1, 3, 4 and 8-16 are rejected under 35 U.S.C. § 102(b) as allegedly being fully anticipated by Miki '000.

Applicants respectfully submit that Miki '000 does not disclose, teach or suggest all elements of the present invention. Specifically Miki '000 does not disclose teach or suggest the lamination structure of the present claims.

In the present invention, the optical recording medium comprises a substrate having successively disposed thereon a light-reflective layer, a recording layer and a cover layer.

To the contrary, Miki '000 discloses an optical recording medium in which a reflection layer is deposited on a substrate, a dielectric layer is deposited on the reflection layer, a heat

control layer is deposited on the dielectric layer, and a recording layer is directly deposited on the heat control layer (paragraph [0015] and Claim 1).

Further, the heat control layer of Miki '000 is comprised of an AgPdCu alloy thin layer (paragraph [0019] and Claim 1). The heat control layer made of an AgPdCu alloy thin layer is an essential element as an underlayer of the recording layer in the Miki '000 application. Thus, the lamination structures are different from the present application and Miki '000 cannot be said to anticipate the present claimed invention.

Accordingly, Applicants respectfully request withdrawal of the §102 rejection.

E. Ohno '443

Claims 1, 3, 4 and 8-17 are rejected under 35 U.S.C. § 102(b) as allegedly being fully anticipated by Ohno '443.

Applicants respectfully traverse the rejection and submit that Ohno '443 does not disclose, teach or suggest all elements of the present invention. Specifically, Ohno '443 fails to disclose, teach or suggest the central surface average roughness (SRa) and the height and number of projections recited in the present claims. Ohno '443 teaches that the average rough grain size of the front surface of the reflective layer obtained by dividing a measured surface by the number of projections in fine recesses and projections in the area, is at most $6,000 \text{ nm}^2$ and at least 500 nm^2 and an average surface roughness (Ra) of at most 4 nm. See paragraphs [0056], [0057] and [0058]. However, this disclosure does not relate to the central surface average roughness (SRa), and the height and number of projections of the present application for the following reasons.

(1) Technical differences between the centerline average roughness (Ra) of Ohno '443 and the central surface average roughness (SRa) of the present application.

(Ra) literally represents the degree of surface irregularity along the measurement line. Therefore, (Ra) would show an accurate roughness and is an effective measurement when the surface has an isotropic surface roughness. However, when the surface has an anisotropic surface roughness, there is a possibility that the measurement value would vary with the direction and orientation of measurement.

On the other hand, (SRa) evaluates the surface roughness of the entire measurement surface. Accordingly, it can obtain a more accurate value even when the surface has an anisotropic surface roughness.

Both of the reflective layers according to the present application and Ohno '443 are formed by sputtering. In sputtering, it is often the case that the roughness tends to be anisotropic depending on the substrate or conditions. Accordingly, it is more appropriate to define the roughness by (SRa).

In the case of an optical disc, since a laser beam is a spot having an area (in the case of the present application, a circle with a diameter of 400nm), a high quality optical disc can be obtained by defining the roughness with reference to the entire surface.

For example, in the case of an anisotropic surface, (Ra) differs depending on whether it is a X-direction measurement value or a Y-direction measurement value. Accordingly, the reflective layer of Ohno '443 measured by (Ra) cannot be said to disclose the reflective layer of the present application measured by (SRa). The present application still has a technical

significance by defining the (SRa) value of the reflecting layer, although Ohno '443 discloses the (Ra) value.

(2) Technical differences between evaluation by the surface average particle size (area) of Ohno '443, and evaluation by the height and number of the projection (height) of the present application.

Primarily, the surface average roughness particle size of Ohno '443 is a particle size represented by area, which differs from the height and number of the projections according to the present application.

In the case of an optical disc, often times a laser beam reaches the surface not only at a right angle, but also with some degree of the angle. Accordingly, the height and number of the projections have much effect on the recording density by diffused reflection.

In particular, in the case of DVR-Blue used in the present application, the NA (aperture) is as large as 0.85 compared to that of DVD-R with NA of 0.60. Therefore, the volume of the incident beam with an angle increases, and the projections have much effect on this. Accordingly, the disclosure of the height and number of the projections in Claim 1 has a technical significance.

Thus, in view of the above, Ohno '443 fails to disclose, teach or suggest the central surface average roughness (SRa) and the height and number of projections recited in the present claims and cannot be said to anticipate the present invention.

Accordingly, Applicants respectfully request withdrawal of the §102 rejection.

F. Kakuta et al '511

Claims 1, 3-6, 8-16 and 18 are rejected under 35 U.S.C. § 102(e) as allegedly being fully anticipated by Kakuta et al '511.

Applicants claim priority to JP App. No. 20002-241581 filed in Japan on August 22, 2002 which precedes the earliest effective date of Kakuta et al '511 of December 13, 2002. A sworn English translation is submitted herewith thereby removing Kakuta et al '511 as prior art under §102 (e). Support for the present rejected claims is found in the priority document as follows:

Present Claims	Support in JP 2002-241581
Claim 1	Claim 1 on page 1
Claims 3, 4	Paragraph [0007]
Claim 5	Paragraph [0008]
Claim 6	Paragraph [0009]
Claims 8, 9 and 10	Paragraph [0011]
Claim 11	Paragraph [0012]
Claims 12, 13, 14 and 15	Paragraph [0014]
Claim 16	Paragraph [0017]
Claim 18	Paragraph [0019]

Accordingly, Applicants respectfully request withdrawal of the §102 rejection based on Kakuta et al '511.

G. Ohno '443 or Mizushima et al '596, in view of Ohkubo et al '857 and Yabe et al '620

Claims 1-17 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over either Ohno '443 or Mizushima et al '596, in view of Ohkubo et al '857 and Yabe et al '620.

Ohno '443 and Mizushima et al do not teach or suggest the presently claimed invention for the reasons set forth above. Ohkuto et al '857 and Yabe et al '620 fail to remedy the deficiencies of Ohno '443 and Mizushima et al '596. Thus, the cited references, whether taken alone or in combination, do not teach or suggest all elements of the present invention and even if combined the present invention would not have been obtained.

Accordingly, Applicants respectfully withdrawal of the §103 rejection.

H. Ohno '443 and over Kawakubo et al '656

Claims 1, 3, 4 and 8-20 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ohno '443 and over Kawakubo et al '656.

Ohno '443 fails to disclose, teach or suggest all elements of the present invention, for the reasons set forth above. Kawakubo et al '656 also fails to disclose, teach or suggest the projections and SRa value recited in the present claims and therefore does not remedy the deficiencies of Ohno '443. Thus, the cited references, whether taken alone or in combination, do not teach or suggest all elements of the present invention and even if combined the present invention would not have been obtained.

Accordingly, Applicants respectfully withdrawal of the §103 rejection.

I. Ohno '443 in view of Kawakubo et al '656, further in view of Ohkubo et al '857 and Yabe et al '620

Claims 1-20 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ohno '443 in view of Kawakubo et al '656, further in view of Ohkubo et al '857 and Yabe et al '620.

Ohno '443 and Kawakubo et al '656 fail to disclose, teach or suggest all elements of the present invention, for the reasons set forth above. Ohkubo et al '857 and Yabe et al also fail to disclose, teach or suggest the projections and SRa value recited in the present claims and therefore does not remedy the deficiencies of Ohno '443 and Kawakubo et al '656. Thus, the cited references, whether taken alone or in combination, do not teach or suggest all elements of the present invention and even if combined the present invention would not have been obtained.

Accordingly, Applicants respectfully withdrawal of the §103 rejection.

II. Response to Double Patenting Rejection

Claims 1-16 and 18-20 are rejected on the ground of nonstatutory obviousness-type double patenting over claims 1-20 of U.S. Pat. No. 6,924,018.

Applicants submit herewith a Terminal Disclaimer, thereby obviating the obviousness-type double patenting rejection.

Accordingly, Applicants respectfully request withdrawal of the rejection.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


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